

Welcome!

Delaware Sea Level Rise Advisory Committee Public Engagement Sessions



Delaware's Sea Level Rise Initiative



Purpose of Today's Meeting

- To share preliminary results of a sea level rise vulnerability assessment
- To get feedback from you about these results and ensure the Advisory Committee is on the right track.
- Feedback will be considered by the committee and incorporated into future documents



At this session, you can...

- Explore Statewide Sea Level Rise Maps
- Find out information about Delaware's vulnerability to sea level rise
- Interact with Committee Members and DNREC Scientists
- Provide feedback and comments for the Committee to consider and incorporate



Purpose of this Presentation

- To give an overview of sea level rise planning and planning scenarios
- To provide information about the Sea Level Rise Advisory Committee and its process
- To highlight the information available at this Public Engagement Session



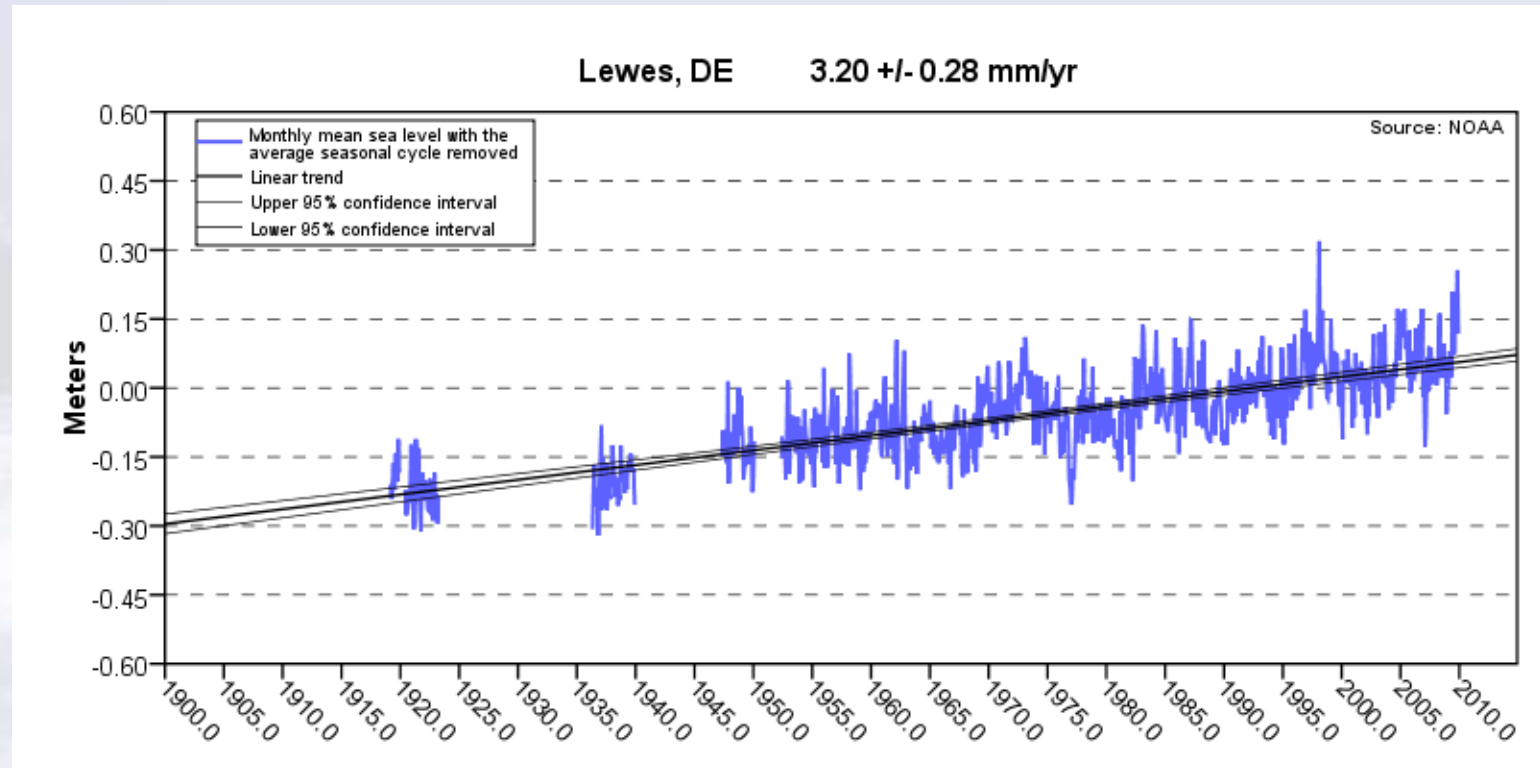
Planning for Sea Level Rise

- Reasonable to believe current rates of sea level rise will accelerate
- Land use & public works decisions have long life-span
 - ✓ Wise use of public funds and reduction of future risk
- Preparing for long-term effects of sea level rise may also help minimize short term impacts from storms



Sea Level Rise @ Lewes, DE

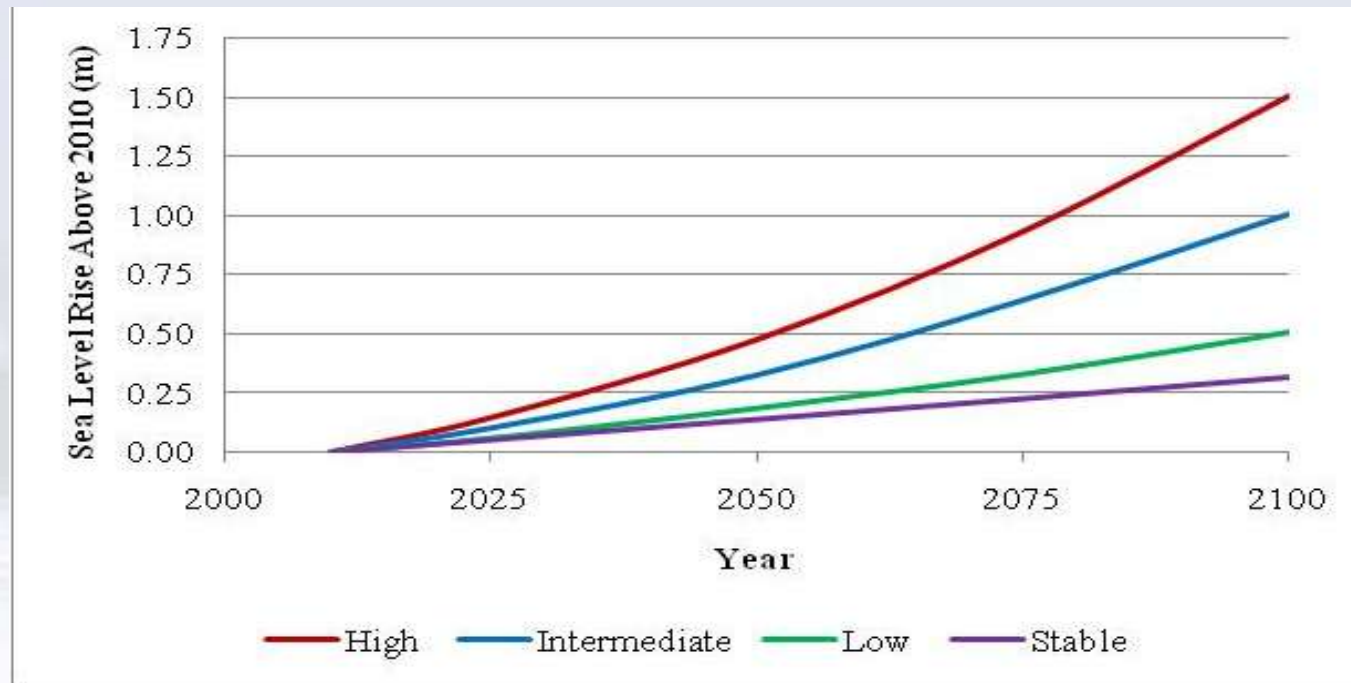
Delaware rate = 3.35 mm/yr (13 Inches/100 years)



Global rate = 1.7 mm/yr



Planning Scenarios for 2100



DNREC Sea Level Rise Technical Workgroup, 2009. Recommended Sea Level Rise Scenarios for Delaware. Available online:

<http://www.dnrec.delaware.gov/coastal/Documents/SeaLevelRise/Final%20and%20Signed%20DNREC%20SLR%20scenarios.pdf>



Potential Impacts of Sea Level Rise

- Increased extent of periodic flooding
- Permanent inundation of coastal areas
- Saltwater Intrusion
- Economic & Social Impacts



Odessa, October 16, 2009



Goal of Sea Level Rise Advisory Committee

The goal of the Sea Level Rise Advisory Committee is to assess Delaware's vulnerability to current and future inundation problems that may be exacerbated by sea level rise and to develop a set of recommendations for state agencies, local governments, businesses and citizens to enable them to adapt programs, policies, business practices and make informed decisions.



Advisory Committee Members

Citizen & Environmental Organizations

Delaware Nature Society
The Nature Conservancy
Positive Growth Alliance
League of Women Voters

Business & Business Organizations

Delaware Chamber of Commerce
Delaware Farm Bureau
Delaware Realtors Association
Home Builders Association of DE
Tidewater Utilities

Universities

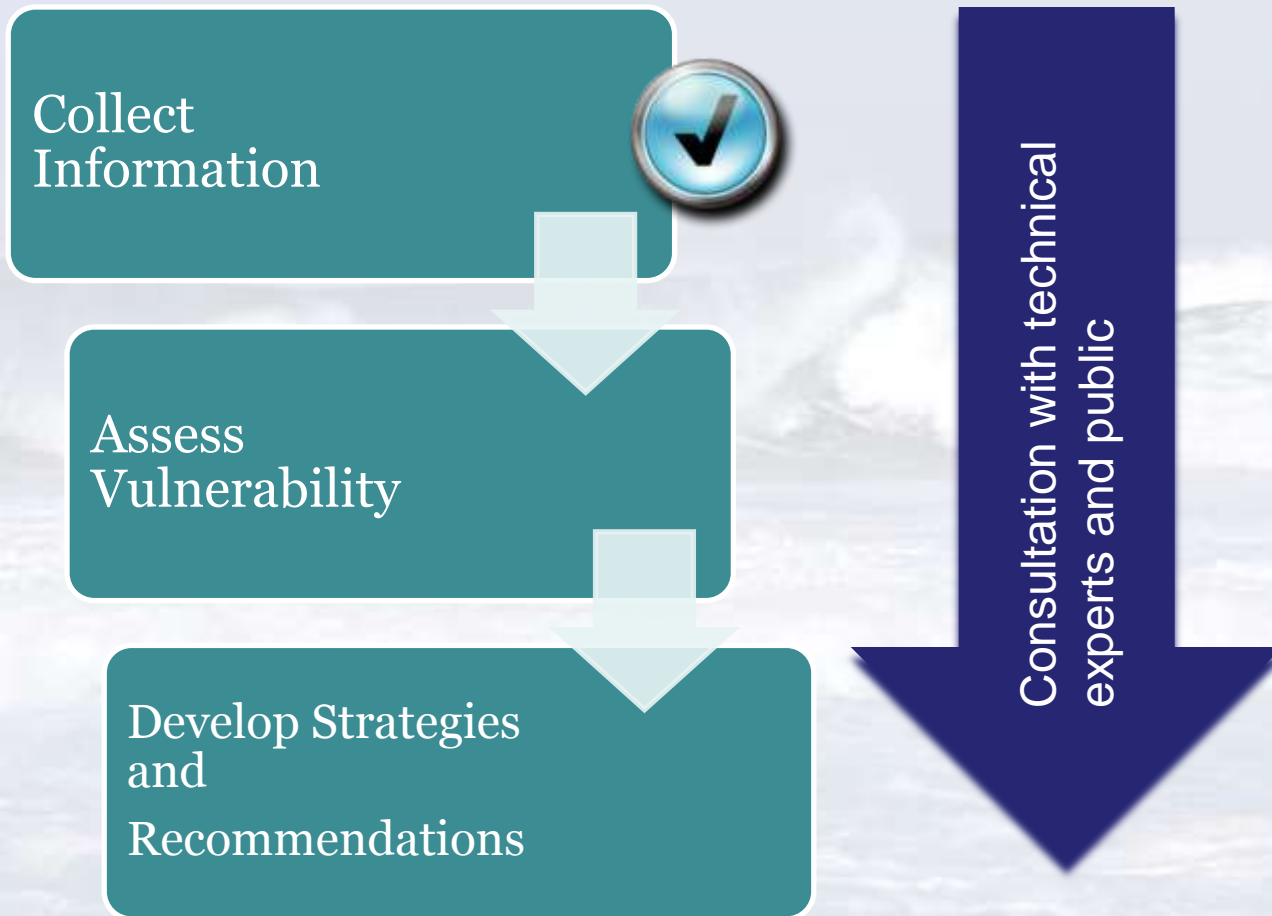
University of Delaware

State Agencies and Local Governments:

Dept. of Agriculture
Dept. of Health and Social Services
Dept. of Natural Resources and
Environmental Control
Dept. of Safety and Homeland Security
Dept. of Transportation
Economic Development Office
Insurance Commissioner's Office
Delaware Legislature
Office of Management and Budget
Office of the Governor
Kent County
New Castle County
League of Local Governments/Lewes



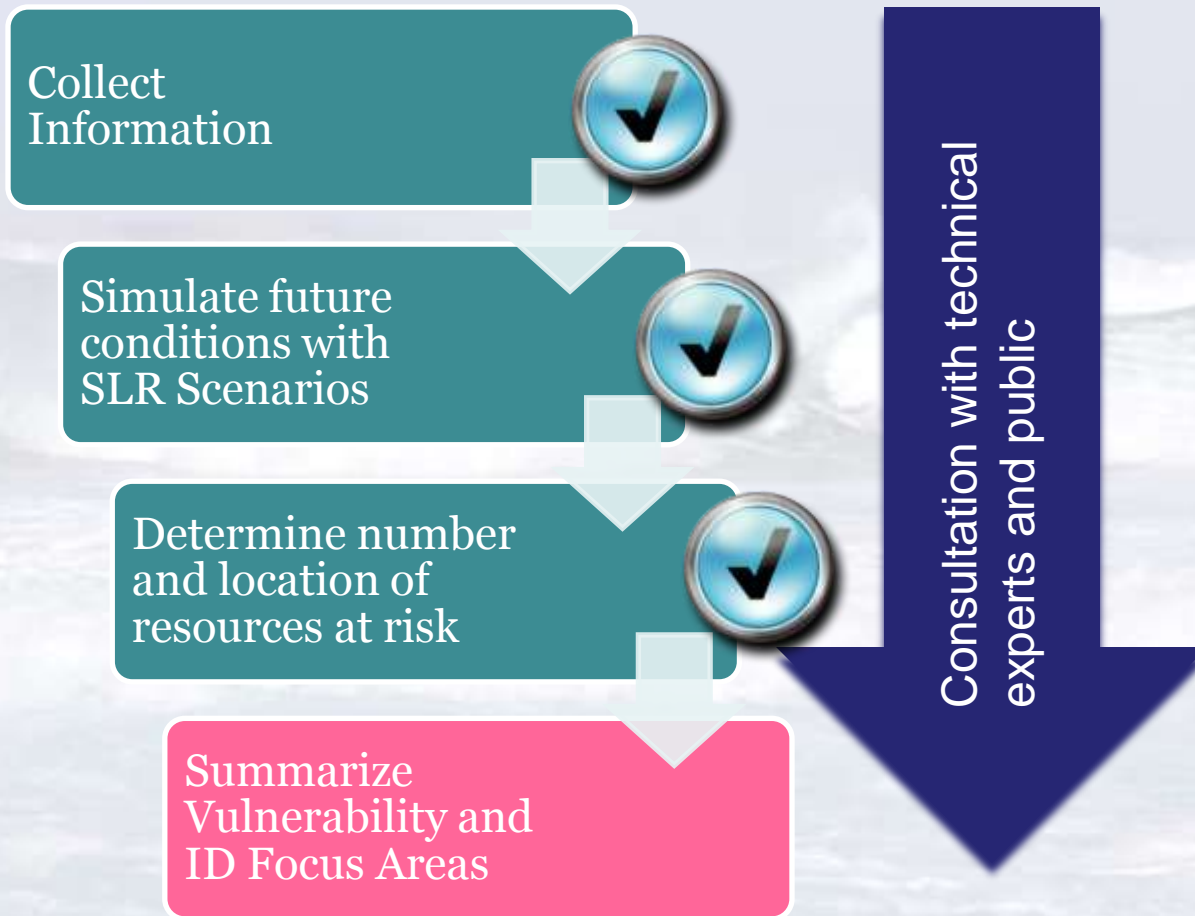
Steps to an Adaptation Plan



Adapted from NOAA (2010). Adapting to climate change: a planning guide for coastal managers



Steps to Assessing Vulnerability



Adapted from NOAA (2010). Adapting to climate change: a planning guide for coastal managers



Collecting Information

- Background & Potential Impacts
- Specific State & Local Data State & Local GIS Layers

	Layer	Agency Data Source
Infrastructure		
	Schools (K-16)	Dept. of Education
	Fire and Rescue stations	US Homeland Security-HSIP Freedom
	Police stations	
	cell towers	Federal Communications Commission
	Telephone switching stations	
	Roads	DeIDOT Centerlines
	Bridges	DeIDOT Centerlines
	Bus Routes	DART
	Airports	DeIDOT - Aviation
	Trains	
	Ports	
	sewer pump stations	Kent County Engineering, New Castle County Special Services and Sussex County GIS
	sewer lines	Kent County Engineering, New Castle County Special Services (no Sussex data)



Identifying potential impacts

- Data gathered was overlaid with DNREC Scenario maps
- Using this technique, the numbers and locations of resources that could potentially be inundated were identified
- This allows us to know the extent of potential impacts at a statewide scale



Potential Exposure of Hazardous Sites at 1.5 meters of Sea Level Rise



Options for Responding

- Accommodate
 - ✓ Elevate, Flood Proof, Behavior
- Protect
 - ✓ Build seawalls, dikes, beach nourishment
- Managed Retreat
 - ✓ Planned abandonment, avoidance, relocation

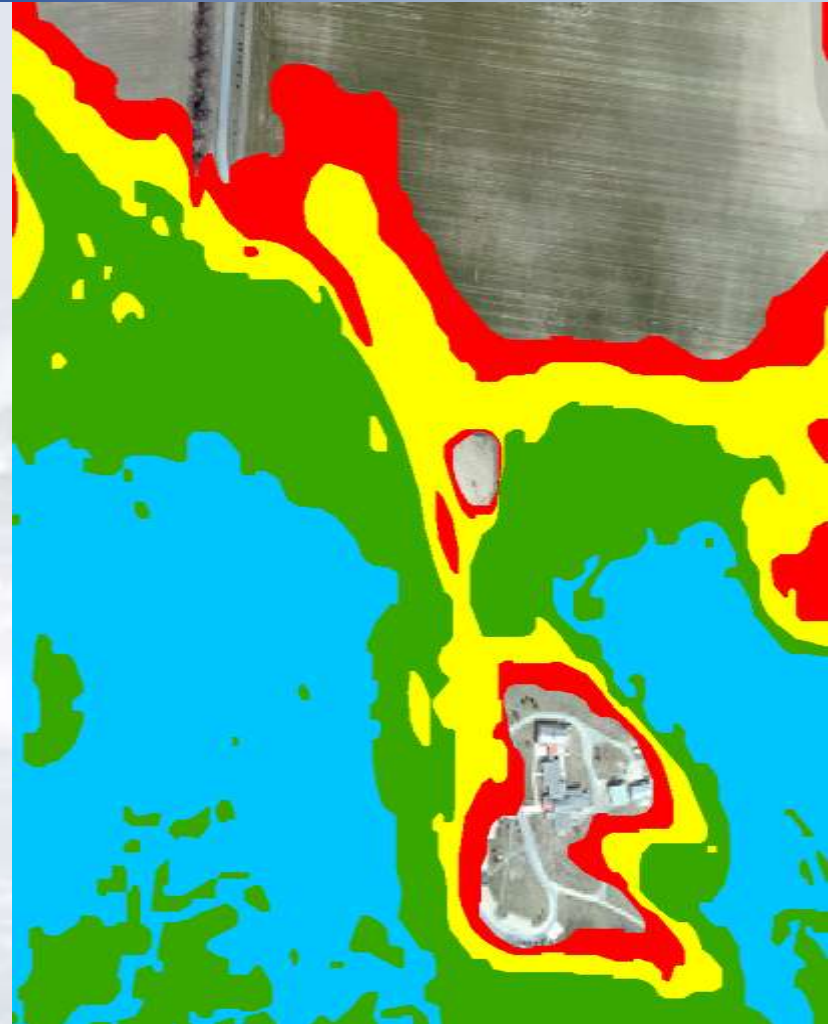


Station Information



Sea Level Rise Scenario Maps

- Station #2
- Uses DNREC Planning Scenarios of 1.6, 3.3 and 4.9 feet
 - ✓ Bath-tub Model – does not account for future changes in shoreline or elevation
 - ✓ High resolution aerial photography (LiDAR)
 - ✓ For planning purposes only



Natural Resources Workgroup

- Station #3
- Highlights Impacts to
 - ✓ Tidal Wetlands
 - ✓ Wildlife
 - ✓ Beaches
 - ✓ Agriculture
 - ✓ Protected Lands
- Grid Maps show location and densities of impact



Chris Bennett



Society & Economy Workgroup

- Station #4
- Highlights Impacts to
 - ✓ Houses
 - ✓ Businesses
 - ✓ Industrial/Manufacturing
 - ✓ Archeological and historical
 - ✓ Outdoor Recreation
- Grid Maps show location and densities of impact

Tony Pratt



Public Safety & Infrastructure Workgroup

- Station #5
- Highlights Impacts to
 - ✓ Police, Fire & Rescue
 - ✓ Roads
 - ✓ Dikes & Dams
 - ✓ Sewer systems
 - ✓ Port of Wilmington
- Maps show location and densities of impact



Interactive Map Viewers

- Station #6
- Opportunity to see the GIS data in use and view locations that you are interested in
- Also try out the online sea level rise map viewer



Background Info Stations

- A – What Causes Sea Levels to Change
- B – Scaling Data: Displaying information for different uses
- C – Data Types used in vulnerability mapping



Comments

- Station #7
- Please fill out a comment form before you leave
- Committee members will also be listening to your concerns and recording them during the night
- Comments may be emailed to Kelly.Valencik@state.de.us or mailed to Delaware Coastal Programs, 5 East Reed St, Ste 201, Dover, DE 19901



Next Steps

- Committee will review and incorporate your feedback into the vulnerability assessment
- Committee will finalize the vulnerability assessment and begin developing adaptation strategies
- Additional opportunities for public comments and feedback will be part of this process
- Final product will be a document that contains guidance and recommendations for citizens, businesses and governments.



Thank you!

Committee members and staff look forward to talking with you and answering your questions in the main display area.

